

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference H1875 PCT S3	FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/EP2004/007538	International filing date (day/month/year) 08/07/2004	(Earliest) Priority Date (day/month/year) 08/07/2003
Applicant GLYCOMED SCIENCES LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☒ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/007538A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07J1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 03/018604 A (GLYCOMED SCIENCES LTD ; SHAHID MOHAMMED (GB)) 6 March 2003 (2003-03-06) the whole document	1-22, 24-27
Y	ZOU C-C ET AL: "The synthesis of gracillin and dioscin: two typical representatives of spirostanol glycosides" CARBOHYDRATE RESEARCH, ELSEVIER SCIENTIFIC PUBLISHING COMPANY. AMSTERDAM, NL, vol. 338, no. 8, 4 April 2003 (2003-04-04), pages 721-727, XP004417407 ISSN: 0008-6215 the whole document	1-22, 24-27

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

7 February 2005

Date of mailing of the international search report

21.02.05

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Klein, D

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/007538

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	IKEDA T ET AL: "Synthesis of neosaponins having an alpha-1-rhamnopyranosyl-(1->4)-'alpha-1-rhamnopyranosyl-(1->2)!-d-glucopyranosyl glyco-linkage" TETRAHEDRON LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 42, no. 12, 18 March 2001 (2001-03-18), pages 2353-2356, XP004229921 ISSN: 0040-4039 the whole document	1-22, 24-27
Y	LI C ET AL: "Synthesis of diosgenyl alpha-1-rhamnopyranosyl-(1->2)-'beta-d-glucopyranosyl-(1->3)!-beta-d-glucopyranoside (gracillin)" CARBOHYDRATE RESEARCH, ELSEVIER SCIENTIFIC PUBLISHING COMPANY. AMSTERDAM, NL, vol. 306, no. 1-2, January 1998 (1998-01), pages 189-195, XP004204799 ISSN: 0008-6215 the whole document	1-22, 24-27
Y	JOHNS, TIMOTHY ET AL: "Glycoalkaloids of Solanum series Megistacrolobum and related potato cultigens" BIOCHEMICAL SYSTEMATICS AND ECOLOGY , 14(6), 651-5 CODEN: BSECBU; ISSN: 0305-1978, 1986, XP001204870 the whole document	23
Y	SANDROCK, ROBERT W. ET AL: "Fungal sensitivity to and enzymic degradation of the phytoanticipin .alpha.-tomatine" PHYTOPATHOLOGY , 88(2), 137-143 CODEN: PHYTAJ; ISSN: 0031-949X, 1998, XP001204873 the whole document	23
Y	KUHN, RICHARD ET AL: "The constitution of lycotetraose" CHEMISCHE BERICHTE , 90, 203-18 CODEN: CHBEAM; ISSN: 0009-2940, 1957, XP009040688 the whole document	23
Y	WO 03/030884 A (GLYCOMED SCIENCES LIMITED; LAWSON, CHRIS) 17 April 2003 (2003-04-17) the whole document	23
E	WO 2005/005454 A (GLYCOMED SCIENCES LIMITED; LAWSON, CHRISTOPHER, JOHN; WEYMOUTH-WILSON,) 20 January 2005 (2005-01-20) the whole document	1-27
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/007538

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 2004/096830 A (GLYCOMED SCIENCES LIMITED; SHAHID, MOHAMMED) 11 November 2004 (2004-11-11) the whole document ----- ✓	1-27

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/007538

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-22,24-27

A process for the preparation of steroid derivatives bearing in position 3 a triose moiety as claimed in claim 1.

2. claim: 23

Two new compounds namely tomatidin-3-yl triose and demissidin-3-yl triose.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/007538

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03018604	A	06-03-2003	BR 0212397 A	19-10-2004
			CA 2458183 A1	06-03-2003
			WO 03018604 A1	06-03-2003
			EP 1421100 A1	26-05-2004
			US 2004259814 A1	23-12-2004
WO 03030884	A	17-04-2003	WO 03030884 A2	17-04-2003
WO 2005005454	A	20-01-2005	WO 2005005454 A1	20-01-2005
WO 2004096830	A	11-11-2004	WO 2004096830 A1	11-11-2004